On the unicity of the integro-polynomial representation for definitizable moment problems

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A real sequence $\{c_k\}_{k=0}^{\infty}$ is called *Hamburger-definitizable* if there are real numbers $\gamma_0, \gamma_1, \ldots, \gamma_n$ and a Hamburger moment sequence (i.e., a positive sequence) $\{d_k\}_{k=0}^{\infty}$ such that $d_k = \sum_{i=0}^{n} \gamma_i c_{i+k} \quad \forall\, k = 0, 1, \ldots$. In other words, $\{c_k\}_{k=0}^{\infty}$ is called Hamburger-definitizable if it can be mapped, by some finite difference operator, to a Hamburger moment sequence.

In the same way, a real sequence $\{c_k\}_{k=0}^{\infty}$ is called *Hausdorff-definitizable* if it can be mapped, by some finite difference operator, to a Hausdorff moment sequence.

Hamburger-definitizable and Hausdorff-definitizable sequences have an integro-polynomial representation constructed by the same way as the integro-polynomial representation for their trigonometric analog (see [1]). Here we study the problem of unicity for elements of this representation.

The talk is based on a joint work with L. Navarro.

References

[1] Navarro, L and Strauss, V. *On a Definitizable Analog of the Trigono-metric Moment Problem Generating an Indefinite Toeplitz Form*, Monatsh.Math, **143** (2004), 333–347.